

Dear Family,

If you go on campus, you may see a few codes. Here is an explanation of your child's grade. You will notice that all book assignments are worth 10 points. Assignments are practice. Points are taken the assignment usually for only one of three reasons: 1. The student didn't complete the problem; 2. The student didn't show work on the assignment; or 3. The problem is incorrect. (All answers are posted online for students to check when the assignment is given. Students may resubmit any assignment if they don't like their grade. However, all assignments must be submitted by the end of the next unit. For example, all assignments from chapter 1 must be submitted by the end of chapter 2. If an assignment says it is late, I do not reduce points. The "late" is only for your information. Since most lessons build upon each other, it is important to keep up with the work.

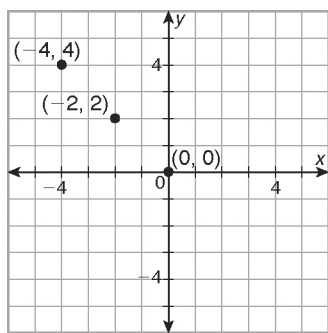
Each quiz is worth 50 points. If a student scores below an 80%, I strongly encourage students to correct the quiz and retake an alternative quiz. Although the quiz is online, I require students to retake the quiz in school. They may do this in a study hall, before, or after school. I ask students to redo the quiz within one week of getting it back. If you see a comment in campus, "Needs to correct & redo," please encourage your child to redo these as soon as possible. Although I require students who score below 80% to redo it, anyone can redo the test. I do not punish students for taking a redo. If a student learns the material and scores higher on the redo, the student will receive the new grade on the redo. This same thing is true for tests. The only difference is that tests are worth 250 points.

If you see an "M" in campus, it means the activity is missing. It is stored as a 0 until it is completed. This will have a great effect on the grade until it is completed. This is especially true at the beginning of the quarter. Grades of "M" must be completed! I do not wish to have anyone with a 0!

In this chapter, your child will learn the difference between **inductive** and **deductive reasoning**. We will be investigating inductive reasoning by looking at the changes to a Möbius strip. A Möbius strip is a one-sided loop. Your child will make **conjectures** and learn to verify them using deductive reasoning. Your child will also begin to recognize the different types of **biconditional statements**.

Your child will learn to recognize patterns and make conjectures.

Look at the figure:



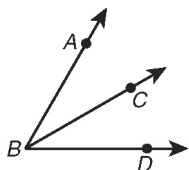
Notice how the points on this graph are arranged in a line.

The following conjecture can be written about these points on the coordinate plane: To find the next point in the grid, add 2 to the  $x$ -coordinate and subtract 2 from the  $y$ -coordinate.

Your child will then use the conjecture to make a guess as to where the next points on the graph will be. Based on the conjecture, the next two points on the grid will be at  $(2, -2)$  and  $(4, -4)$ .

Your child will also learn to write and analyze conditional statements made about geometric figures.

Look at the figure below:



A **conditional statement** can be written about this figure:

If  $\overline{BC}$  bisects  $\angle ABD$ , then  $\angle ABC$  is equal to  $\angle CBD$ .

A **converse statement** can be written from this conditional statement. This would be the following: If  $\angle ABC$  is equal to  $\angle CBD$ , then  $\overline{BC}$  bisects  $\angle ABD$ .

Your child will also learn to write **inverse statements** based on conditional statements. An example of an inverse statement with this diagram is: If  $\overline{BC}$  does not bisect  $\angle ABD$ , then  $\angle ABC$  is not equal to  $\angle CBD$ .

Another statement that can be written is a **contrapositive statement**. The following is a contrapositive statement based on this figure: If  $\angle ABC$  is not equal to  $\angle CBD$ , then  $\overline{BC}$  does not bisect  $\angle ABD$ .

Your child will also begin to solve geometric proofs in this chapter. This is one major difference between regular geometry and accelerated geometry.

An example of a proof that your child may solve is given here. Note that for every statement, there is a reason that explains that statement.

**Given:**  $\overline{QS} \cong \overline{RT}$

**Prove:**  $\overline{QR} \cong \overline{ST}$



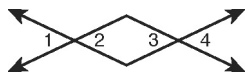
**Proof:**

Statements	Reasons
1. $\overline{QS} \cong \overline{RT}$	1. Given
2. $QS = RT$	2. Definition of congruent segments
3. $QR + RS = QS, RS + ST = RT$	3. Segment Addition Postulate
4. $QR + RS = RS + ST$	4. Substitution
5. $RS = SR$	5. Reflexive Property of Equality
6. $QR = ST$	6. Subtraction Property of Equality
7. $\overline{QR} \cong \overline{ST}$	7. Definition of congruent segments

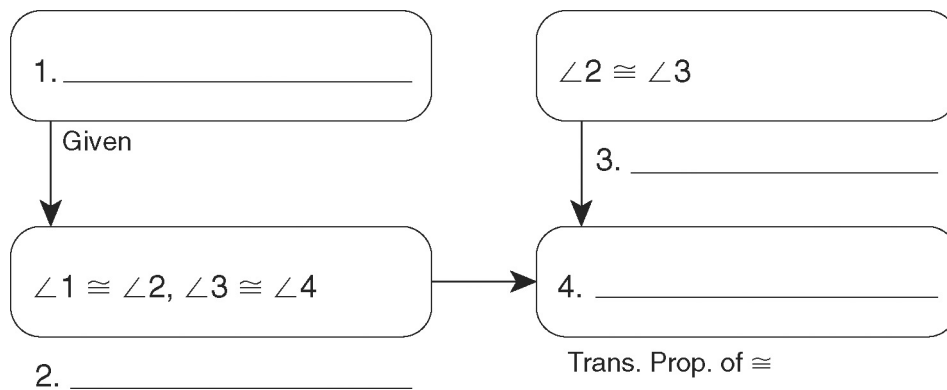
Your child will solve proofs in a two-column format, as seen above, or in a flowchart as indicated below.

**Given:**  $\angle 1 \cong \angle 4$

**Prove:**  $\angle 2 \cong \angle 3$



**Proof:**



## Assignments

**Are You Ready Chapter 2** Pretest & skills.

**2-1 Using Inductive Reasoning to Make Conjectures** (p 77) 11, 13-17, 19.

**2-2 Assignment** (pp 85) 13, 15, 17, 18, 19, 21, 22, 23, 36-38, 40, 44, 46, 48, 49, 54, 55, 57.

**2-3 Using Deductive Reasoning to Verify Conjectures:** (pp 91) 9-13, 16, 18-22, 26, 28.

**2-4 Biconditional Statements and Definitions:** (pp 99) 11-13, 15-19, 24, 28, 30, 35-37, 42.

**Ready to Go On Section 2A** pretest & posttest.

## Chapter 2 Quiz 1.

**2-5 Algebraic Proof:** (p 108) 20-25, 27, 34 & 37.

**2-6 Geometric Proof** (pp 114) 6-10, 15-19, 22-24, 28, 30.

**2-7 Flowchart and Paragraph proofs** (p 123-124) 7-10, 12, 14, 16-20, 24, 26.

**Ready to Go On Section 2B** pretest & posttests.

## Chapter 2 Quiz 2.

Chapter 2 practice test.

## Chapter 2 Test.